

**CALIFORNIA DEPARTMENT OF TRANSPORTATION
DUTY STATEMENT**

| CLASSIFICATION TITLE | DISTRICT/DIVISION/OFFICE | |
|---|--|-----------------------|
| Materials and Research Engineering Associate (M&REA) | DES/METS-GS/Office of Roadway Materials Testing | |
| WORKING TITLE | POSITION NUMBER | EFFECTIVE DATE |
| M&REA | 559-320-3381-xxx | |

As a valued member of the Caltrans team, you make it possible for the Department to provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability. Caltrans is a performance driven, transparent, and accountable organization that values its people, resources and partners, and meets new challenges through leadership, innovation and teamwork.

GENERAL STATEMENT

Under the direction and supervision of a Senior Transportation Engineer (the Branch Chief of the Roadway Materials Field Testing Branch), the Materials and Research Engineering Associate (M&REA) is responsible for implementation of the towed trailer testing and the portable skid testing programs.

TYPICAL DUTIES

Percentage Job Description
Essential (E)/Marginal (M)

- 50% (E) Performs more complex testing in accordance with ASTM E 274 and CT 342, when required. Reviews preliminary skid testing field data, analyzes the accuracy of skid testing data and issues final reports to Legal, Traffic Investigations or Construction personnel in a timely manner. Prepares and maintains accurate skid resistance electronic records, backs up data onto disks, and files hard copies of skid test reports. Maintains hard copy files for all projects that require skid testing. Performs field training (i.e., on the job training) of skid testing staff.
- 30% (E) Acts as lead worker for the Caltrans the towed-trailer skid testing program and portable skid test program statewide. Delegates job assignments to transportation engineering technicians for both programs based on departmental need. Performs field training (i.e., on the job training) of skid testing staff.
- 10% (E) Responsible for the calibration and maintenance of skid testing equipment. Performs minor repairs, troubleshoots, cleans, and maintains towed-trailer skid testing equipment. Arranges for regular maintenance of test vehicles and/or major repairs of vehicles or equipment. Performs general housekeeping of the unit's storage facilities, office space, and calibration bay. Maintains inventory of tools, equipment, and supplies.
- 5% (E) Acts as contract manager for on-call service contracts for towed trailer skid testing equipment.

- 5% (M) Performs miscellaneous office duties such as maintaining file systems, checking database records, and providing database outputs for various skid-testing studies. Compiles and organizes data from special studies, research requests, and correlation studies. Assists engineering staff in literature searches.

SUPERVISION EXERCISED OVER OTHERS

This position does not supervise other employees. However, the M&REA will act as a lead worker over other Caltrans staff in order to perform the skid testing as efficiently as possible.

KNOWLEDGE, ABILITIES AND ANALYTICAL REQUIREMENTS

- Must have a good working knowledge of the use of towed-trailer skid testing equipment per ASTM E274 and the use of portable skid testing equipment per California Test 342.
- Must have a good working knowledge of highway construction techniques and the materials associated with highway construction and maintenance.
- Must have good working knowledge of Caltrans contract administration process.
- Must have a good working knowledge of vehicle and equipment maintenance and care.
- Must have a good working knowledge of math and computer software applications.
- Must be capable of working effectively with a multi-disciplinary technical staff, and must be capable of communicating effectively, both orally and in writing, in the English language using tools such as e-mail, a telephone, or in-person conversations.
- Must be capable of completing training assignments, and subsequently organizing and presenting training sessions to others.
- Must be capable of driving and operating the skid testing equipment.
- Must be capable of performing minor equipment repairs and maintenance, and capable of cleaning the equipment.
- Must be capable of using computer software applications to collect and report test data (e.g., Outlook for e-mail, and the Microsoft Office Suite of MS-Word, MS-Excel, MS-PowerPoint, and MS-Access).
- This work requires the M&REA to be safety-conscience, and to be responsible for themselves or co-workers, and the equipment. The work requires the M&REA to be

aware of his/her surroundings at all times, to analyze the safety aspects of each field condition, and to take appropriate action.

- The M&REA must follow the appropriate Caltrans safety requirements and comply with the requirements of the Caltrans Safety Manual.
- Must also analyze the data upon collection, determine the validity and accuracy of the data, and ascertain whether to proceed with testing or repeat a previous test before leaving the location of the test.

CONSEQUENCE OF ERROR/RESPONSIBILITY FOR DECISIONS

The M&REA position is responsible the accuracy of reporting state highway skid testing data. Failure to properly measure, record, and report skid testing data in a timely manner may result in the inaccurate reporting of highway conditions. Irresponsible actions and reporting by the M&REA may result in expensive claims against the State of California.

PUBLIC AND INTERNAL CONTACTS

The M&REA position will have extensive contact with the multi-disciplinary staff within Caltrans and occasionally with contractors and local agencies. The MREA will have contact with service providers while planning repairs to equipment. Occasional contact with out of state agencies during calibration and/or correlation work is expected. Professional conduct is required at all times.

WORK ENVIRONMENT

While in the office, the M&REA will be working in a climate-controlled office under artificial lighting. The M&REA will be required to sit and work with a computer for extended periods. The M&REA will be assigned time-dated tasks within his/her work assignments, and may have his/her work reviewed for quality by the supervisor, engineering staff, or another M&REA.

The M&REA will be required to travel using state vehicles and work outdoors. The M&REA will be exposed to dirt, noise, uneven surfaces, highway traffic, construction activities, and/or extreme heat or cold. Towed-trailer skid-testing from within a testing vehicle under natural outdoor conditions will be required on mainline routes, ramps, and connectors while traveling within live traffic or under traffic control situations. Portable skid testing within a traffic lane closure under natural outdoor conditions will be required on highway and bridge surfaces while working close to traffic. The M&REA will be required to wear personal protective equipment while in the field.

The M&REA may be required to drive a skid-testing unit to Texas (out of state travel) and assist in the calibration work on the skid-testing unit. The M&REA may be required to spend up to 2 weeks away from home during the out of state calibration and correlation trip.

PHYSICAL, MENTAL AND EMOTIONAL REQUIREMENTS

The M&REA is required to sit and work with a computer for extended periods of time using a keyboard, mouse, and monitor to generate skid-testing reports while in the office or in the field. The M&REA is required to use a facsimile machine, photo copying machine, and a telephone. Simple grasping and manual dexterity is required to manipulate small objects. The M&REA is required to repetitively use his/her hands for keyboard usage, mouse usage, or small tool grasping and usage. The M&REA is required to repetitively use hand controls, foot controls, and be capable of twisting his/her neck while driving state vehicles. The M&REA needs hand/eye coordination with manual dexterity to quickly type information on a computer keyboard and view a computer monitor while operating a skid-testing unit. Sitting, walking, kneeling, crouching, climbing in and out of vehicles, bending, twisting, and standing for extended periods are required to perform skid-testing functions. When the M&REA encounters uneven terrain while working on pavement surfaces, he/she must maintain physical agility while working in the proximity of the motoring public. The M&REA is required to lift and carry tools, supplies, or materials up to 35 pounds, and is occasionally required to lift and carry tools, supplies, or materials up to 50 pounds.

The M&REA will be required to sustain the mental activity needed for driving extended periods of time, working in the field, report writing, checking data, problem solving, data analysis, and reasoning. The M&REA will be required to maintain mental awareness while working in the proximity of the motoring public and performing skid tests. The M&REA will be required to perceive the needs and problems of setting up field equipment and make appropriate decisions with respect to the applicable test method.

The M&REA will be required to develop and maintain cooperative working relationships with co-workers, his/her supervisor, engineering staff, and others. The M&REA will be required to meet and deal tactfully with other Caltrans staff and/or others, as needed, in the performance of his/her job functions. The M&REA will be required to respond appropriately to difficult situations and take the appropriate actions when necessary. The M&REA may be required to travel statewide up to 50% of the time, as a driver, operator, or passenger in state vehicles, or as a passenger on a commercial airline using professional conduct at all times.

The M&REA must have and maintain a valid California Driver's license. Overnight travel may be required up to 50% of the time per month. Professional conduct is required at all times.

I have read and understand the duties listed above and can perform them with/without reasonable accommodation. If you believe you may require reasonable accommodation, please discuss this with the hiring supervisor.

(Print Name)

EMPLOYEE DATE

I have discussed the duties with and provided a copy of this duty statement to the employee named above.

(Print Name)

SUPERVISOR DATE